UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,060	10/30/2003	Joseph L. Aultman	20009.0216US01(030164)	7764

45695 7590 04/13/2009

AT&T Legal Department - WK
Attn: Patent Docketing
Room 2A-207
One AT&T Way
Bedminster, NJ 07921

EXAMINER	
FEARER, MARK D	

ART UNIT	PAPER NUMBER
2443	

MAIL DATE	DELIVERY MODE
04/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/698,060	AULTMAN ET AL.	
	Examiner	Art Unit	
	MARK D. FEARER	2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's Amendment filed 30 December 2008 is acknowledged.
2. Claim 1 has been amended.
3. Claims 21-27 are new.
4. Claims 1-27 are pending in the present application.
5. This action is made FINAL.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fruchtman et al. (US 20030172130 A1) in view of Tremain (US 20020069369 A1) and in further view of Ulrich et al. (US 20020165942 A1).

Consider claim 1. Fruchtman et al. discloses an enterprise data backup and recovery system (("A method of restoring data in a computer network system wherein a plurality of client systems have access to a storage pool coupled to an associated storage area network (SAN) consistent with the invention includes: requesting a restore wherein each of the plurality of client systems may participate in the restore; and coordinating access to the data stored in the storage pool by tracking a plurality of data portions of the data to be restored and by blocking access to each of the plurality of data portions that have been restored by one of the plurality of client systems to avoid duplicative restoration efforts.") paragraph 0008 ("A computer network system for restoring data comprising: a plurality of client systems; a storage pool coupled to said plurality of client systems through a storage area network (SAN); and a storage management server coupled to said plurality of client systems through said SAN, wherein said storage management server is configured to coordinate access to said

data stored in said storage pool by tracking a plurality of data portions of said data to be restored and by blocking access to each of said plurality of data portions that have been restored by one of said plurality of client systems to avoid duplicative restoration efforts.") claim 13), comprising: a first network and a second network (("To address the volume and importance of storing such data on client/server networks, storage area networks (SANs) have emerged to free up bandwidth on such LANs and to provide storage and related storage services to clients of one or more client systems such as backup and restoration functions. A SAN is a dedicated network separate from LANs and wide area networks (WANs) which interconnects storage devices to one or more servers and to a plurality of clients and/or client systems in a related network.") paragraph 0003, the plurality of networks, to include SAN, is read as two or more SAN configured as follows); the networks comprising: a processor layer (("Turning to FIG. 1, a block diagram of a computer network system 100 including a storage management server 102 configured to create and store a master restore table consistent with the present invention is illustrated. The computer network system 100 may contain a plurality of client systems 103, 115. Although only two client systems 103, 115 are illustrated for clarity, those skilled in the art will recognize that a computer network system 100 consistent with the invention may contain any number of client systems. Each client system may contain a plurality of clients. For instance, a first client system 103 may contain its associated plurality of clients 107, 109, 111 and a second client system 115 may similarly contain its associated plurality of clients 117, 119, 121. Each client may be a PC or software on such PCs. Clients in each client system 103, 115 are

coupled directly to each other in any number of fashions known to those skilled in the art, but are not coupled directly to other clients in other client systems. In addition, those skilled in the art will recognize any number of clients may be present in a computer network system 100 consistent with the invention.") paragraphs 0013-0014); a storage area network layer in communication with the processor layer; and a storage layer in communication with the storage area network layer (("One or more of the clients 107, 109, 111 or 117, 119, 121 may be equipped with storage software, e.g., a storage agent, enabling the client with such software to communicate data to be stored in associated storage pool 134 directly over the SAN 106. The storage pool 134 includes a plurality of storage devices 112, 114, 116. Any number of such storage devices 112, 114, 116 may be present in a computer network system 100 consistent with the invention. Each storage device 112, 114, 116 includes some storage medium which physically stores the data such magnetic tape, optical disks, hard disks, floppy disks, or the like.") paragraph 0015). However, Fruchtman et al. fails to disclose a first network and a second network in communication through a third network. Tremain discloses a method and apparatus for providing computer services that allow communication between two or more computers or networks via a third network which may be very widely or loosely connected (("Virtual private networks (VPNs) allow communication between two or more computers or networks via a third network which may be very widely or loosely connected (such as the Internet). The virtual private network technologies (see for example U.S. Pat. No. 5,835,726) are designed such that a computer runs special software which provides a virtual private network gateway to

encrypt traffic and send it across the insecure third network to another gateway which decrypts the information and sends it on to the destination computer or network, and vice versa. Industry standards such as IPSEC have been devised to allow standard interoperability between multiple vendors' virtual private network software.") paragraph 0099) and a dedicated data connection (paragraph 0048).

Fruchtman et al. discloses a prior art enterprise data backup and recovery system, comprising: a first network and a second network; the networks comprising: a processor layer; a storage area network layer in communication with the processor layer; and a storage layer in communication with the storage area network layer upon which the claimed invention can be seen as an improvement.

Tremain teaches a prior art comparable method and apparatus for providing computer services that allow communication between two or more computers or networks via a third network which may be very widely or loosely connected, and a dedicated data connection.

Thus, the manner of enhancing a particular device (method and apparatus for providing computer services that allow communication between two or more computers or networks via a third network which may be very widely or loosely connected, and a dedicated data connection) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Tremain. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art enterprise data backup and recovery system, comprising: a first network and a second network; the networks comprising: a

processor layer; a storage area network layer in communication with the processor layer; and a storage layer in communication with the storage area network layer of Fruchtman et al. and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized a first network and a second network in communication through a third network; wherein, the first and second storage layers are shared by the first and second networks via the third network; and wherein, information stored in the first storage layer is transferred to the second storage layer via the third network under the control of the first processor layer for the purpose of an enterprise backup system and method.

However, Fruchtman et al., as modified by Tremain, fails to disclose a third storage laver in communication with the second storage area network and in communication with one or more application servers.

Ulrich et al. discloses a system and method of a data path accelerator with variable parity, variable length, and variable extent parity groups comprising a third storage laver (paragraph 0553) in communication with the second storage area network (paragraph 0392) and in communication with one or more application servers (paragraph 0545).

Fruchtman et al., as modified by Tremain, discloses a prior art method and apparatus for providing computer services that allow communication between two or more computers or networks via a third network which may be very widely or loosely connected, a dedicated data connection, and enterprise data backup and recovery system, comprising: a first network and a second network; the networks comprising: a

processor layer; a storage area network layer in communication with the processor layer; and a storage layer in communication with the storage area network layer upon which the claimed invention can be seen as an improvement.

Ulrich et al. teaches a prior art comparable system and method of a data path accelerator with variable parity, variable length, and variable extent parity groups comprising a third storage laver in communication with the second storage area network and in communication with one or more application servers via a dedicated data connection.

. Thus, the manner of enhancing a particular device (system and method of a data path accelerator with variable parity, variable length, and variable extent parity groups comprising a third storage laver in communication with the second storage area network and in communication with one or more application servers via a dedicated data connection) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Ulrich et al. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art method and apparatus for providing computer services that allow communication between two or more computers or networks via a third network which may be very widely or loosely connected, a dedicated data connection, and enterprise data backup and recovery system, comprising: a first network and a second network; the networks comprising: a processor layer; a storage area network layer in communication with the processor layer; and a storage layer in communication with the storage area network layer of Fruchtman et al., as modified by Tremain, and

the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized an enterprise backup system and method.

Consider claim 2, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first processor layer comprises: a first media server; a first application storage manager server in communication with first media server via a first local area network (("Turning to FIG. 2, an exemplary master restore table 200 consistent with the invention that may be created and temporarily stored on a storage management server 102 or any device common to the system 100 is illustrated. The table 200 generally is used to track portions of data to be restored and the associated restore media from the various storage devices 112, 114, 116 of the storage pool 134 where such portions of data are located. A host of clients 107, 109, 111 and 117, 119, 121 and client systems 103, 115 may be able to access the table 200 to optimize restore efforts from a plurality of client systems 103, 115. Although described in terms of columns and rows, a master restore table consistent with the invention may take a variety of forms.") Fruchtman et al., paragraph 0021); and a first client in communication with the first media server via the first local area network; wherein the information is transferred to the first media server and to the first storage layer (("[0004] It is well known that individuals and organizations continually upgrade their computer equipment. For example, an individual or organization may simply want to improve the speed of running of currently owned software applications and will

therefore typically purchase a new computer or network server, as appropriate, in order to obtain a more recent and therefore faster central processor unit, more and/or faster memory, etc. An individual or organization may require additional and/or faster file and/or data storage because of growth in the size of files or amount of data that is stored or simply for quicker access to the stored files/data. As a further example, newer software applications may have a minimum computer specification that exceeds that currently owned by the individual or organization. As will be discussed in more detail below, the purchase of additional or new, upgraded computer equipment brings numerous problems, including particularly the requirement for a significant capital outlay and for time to be spent in installing and setting up the new equipment. In any event, the cost of maintaining computer equipment can be significant, both in financial terms and in respect of the time spent in maintenance.") Tremain, paragraph 0004).

Consider claim 3, as applied to claim 2. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first media server controls the transfer of the information to the first storage layer (("One or more of the clients 107, 109, 111 or 117, 119, 121 may be equipped with storage software, e.g., a storage agent, enabling the client with such software to communicate data to be stored in associated storage pool 134 directly over the SAN 106. The storage pool 134 includes a plurality of storage devices 112, 114, 116. Any number of such storage devices 112, 114, 116 may be present in a computer network system 100 consistent with the invention. Each storage device 112, 114, 116 includes some storage medium which physically stores the data

such magnetic tape, optical disks, hard disks, floppy disks, or the like.") Fruchtman et al., paragraph 0015).

Consider claim 4, as applied to claim 2. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first application storage manager server controls the transfer of the information to the first storage layer (("The master restore table 200 may include a plurality of columns including: a first column 202 detailing the portions of data to be restored; a second column 204 detailing the location of such portions of data on associated media from various storage devices 112, 114, 116 of the storage pool 134; a third column 206 detailing a LAN-free path for accessing the associated storage media if such path exists, a fourth column 208 detailing a server-free path for accessing the associated storage media if such path exists, and a fifth column 210 detailing the status of whether an associated storage media has been processed for a given portion of data. Advantageously then, the fifth column tracks the portions of data that have been processed by any one client in any one plurality of client systems 103, 115. In this way, clients or restore processes from any client system 103, 115 would be blocked from restoring a portion of that data that had already been processed or restored. Accordingly, duplicative restoration efforts are automatically avoided.") Fruchtman et al., paragraph 0022).

Consider claim 5, as applied to claim 2. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first application storage manager server controls the transfer of the information to the second storage layer (Fruchtman et al., paragraph 0022 and paragraph 0003, the plurality of networks, to include SAN, is read as two or more SAN).

Consider claim 6, as applied to claim 2. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first storage layer further comprises: a first disk storage array in communication with the first application storage manager server for storing the information; and a first backup library in communication with the first application storage manager server for storing the information (("Advanced secondary storage subsystems of the type manufactured by StorageTek, IBM and others optimize the use of physical storage such that virtual servers may run conventional software which requires no special disk or tape drivers, whilst the physical server may use advanced proprietary software to communicate with the advanced storage mechanisms. These advanced storage mechanisms, amongst other things, cache frequently-accessed data in very high speed semiconductor RAM (thus eliminating time delays normally incurred in disk track seek time, rotational latency, rotational speed and disk head read/write speed); optimize the placement of data on the real disks to enhance performance (in order to reduce disk actuator seek time and rotational latency involved with spinning magnetic storage); provide the ability to "snapshot" virtual disks to provide instant copies for archival or roll-back purposes; and

optimize space utilization by eliminating duplicate copies of the same information stored in two separate places (such as when a file or group of files is copied). Virtual tape systems (as manufactured by StorageTek, IBM, Hitachi and other suppliers) may be used to create tape drives of the sort which commodity operating systems running on virtual machines are programmed to communicate with, when in fact the real storage consists of high-speed disk storage and proprietary high-performance tape storage of a sophistication which commodity operating systems cannot readily use. Finally, hierarchical storage systems can automatically migrate infrequently used files (which may consist of entire virtual disks) from high-cost rotating disk storage to low-cost serial-access or random-access tape systems which may utilize automatic robotic tape libraries coupled with multiple tape drives.") Tremain, paragraph 0104).

Consider claim 7, as applied to claim 6. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first disk storage array is in communication with the first backup library via a fiber channel (("A computer room 60 is prepared with air-conditioning and clean, redundant power. A similar computer room 61 is prepared in another building some miles or kilometers away. Multiple high-bandwidth fibre-optic communications links are put in place between the computer rooms 60,61. Having two computer rooms 60,61 and multiple hardware and connection systems as described below provides for disaster recovery and resilience capabilities.") Tremain, paragraph 0165).

Consider claim 8, as applied to claim 6. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first disk storage array is in communication with the first application storage manager server via a fiber channel (("Storage devices are a place to keep and retrieve data on a long-term basis. Each storage device includes some storage medium which physically stores the data such magnetic tape, optical disks, hard disks, and floppy disks. Storage media can also be arranged in a variety of ways including a redundant array of independent or inexpensive disks (RAIDs) which typically function as one of the storage devices in a SAN.") Fruchtman et al., paragraph 0004 and Tremain, paragraph 0165).

Consider claim 9, as applied to claim 6. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first backup library is in communication with the first application storage manager server via a fiber channel (Tremain, paragraphs 0104 and 0165).

Consider claim 10, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system comprising a first switch in communication with the first storage area network layer for transferring the information to the third network (("SANs also often have high interconnect data rates (gigabits/second) between member storage devices and are highly scalable. SANs can be interconnected with

similar elements as in LANs and WANs, e.g., routers, hubs, switches, and gateways. A SAN may be local or extend over geographic distances.") Fruchtman et al., paragraph 0005).

Consider claim 11, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the third network is an asynchronous transfer mode network (("A large number of racks of multi-processor servers 62, or interconnected NUMA or ccNUMA massively parallel computers 62, which could contain, for example, up to 512 processors per computer, are configured with maximum CPU and memory configurations (for example 2 terabytes per computer) and installed in each of the computer rooms 60,61. Storage area network (e.g. Fibrechannel) and Local Area Network (e.g. Gigabit Ethernet or ATM) interface cards are installed in each of the individual servers 62. Out-of-band console management subsystems 63 are connected via a real network 64 to allow start-up, configuration, control, monitoring and shutdown of the individual servers 62. These various local area network and storage area network connections and interface adapters are fitted to the computers in such a way as to ensure that the Input/Output bandwidth is maximized and that potential performance bottlenecks are eliminated. This is done by identifying the maximum possible Input/Output bandwidth of the main computers containing the processors, then, depending on the system's architecture, installing a plurality of interface cards such that the central processors can drive data through those interfaces with the maximum possible throughput and lowest latency. These interfaces are then

coupled into the storage area network which is provisioned with sufficient bandwidth, which may dictate a certain configuration of storage area network switches/routers. In turn, these switches/routers are coupled to virtual storage subsystems, to be described below, again with sufficient interfaces and connection paths as to permit the highest possible data throughput and lowest latency.") Tremain, paragraph 0166).

Consider claim 12, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein: the second processor layer further comprises: a second media server; and a second application storage manager server in communication with second media server via a second local area network (("Storage devices are a place to keep and retrieve data on a long-term basis. Each storage device includes some storage medium which physically stores the data such magnetic tape, optical disks, hard disks, and floppy disks. Storage media can also be arranged in a variety of ways including a redundant array of independent or inexpensive disks (RAIDs) which typically function as one of the storage devices in a SAN.") Fruchtman et al., paragraph 0004); and wherein, the second storage layer further comprises: a second disk storage array in communication with the second application storage manager server for storing the information; and a second backup library in communication with the second application storage manager server for storing the information; wherein the second application storage manager server controls the movement of the information from the second disk storage array to the second backup library (("[0104] Advanced secondary storage subsystems of the type manufactured by

StorageTek, IBM and others optimize the use of physical storage such that virtual servers may run conventional software which requires no special disk or tape drivers, whilst the physical server may use advanced proprietary software to communicate with the advanced storage mechanisms. These advanced storage mechanisms, amongst other things, cache frequently-accessed data in very high speed semiconductor RAM (thus eliminating time delays normally incurred in disk track seek time, rotational latency, rotational speed and disk head read/write speed); optimize the placement of data on the real disks to enhance performance (in order to reduce disk actuator seek time and rotational latency involved with spinning magnetic storage); provide the ability to "snapshot" virtual disks to provide instant copies for archival or roll-back purposes; and optimize space utilization by eliminating duplicate copies of the same information stored in two separate places (such as when a file or group of files is copied). Virtual tape systems (as manufactured by StorageTek, IBM, Hitachi and other suppliers) may be used to create tape drives of the sort which commodity operating systems running on virtual machines are programmed to communicate with, when in fact the real storage consists of high-speed disk storage and proprietary high-performance tape storage of a sophistication which commodity operating systems cannot readily use. Finally, hierarchical storage systems can automatically migrate infrequently used files (which may consist of entire virtual disks) from high-cost rotating disk storage to low-cost serial-access or random-access tape systems which may utilize automatic robotic tape libraries coupled with multiple tape drives.") Tremain, paragraph 0104).

Consider claim 13, as applied to claim 12. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the second disk storage array is in communication with the second backup library via a fiber channel (Tremain, paragraphs 0104 and 0165).

Consider claim 14, as applied to claim 12. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the second disk storage array is in communication with the second application storage manager server via a fiber channel (Tremain, paragraphs 0104 and 0165).

Consider claim 15, as applied to claim 12. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the second backup library is in communication with the second application storage manager server via a fiber channel (Tremain, paragraphs 0104 and 0165).

Consider claim 16, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system comprising a second switch in communication with the second storage area network layer for receiving the information from the third network ((“The primary Gigabit Ethernet interfaces on the four IBM x370 servers A1,B1,C1,D1 are connected to a high-speed Gigabit Ethernet switch 2 (such as

those manufactured by Cisco). The secondary Gigabit Ethernet interfaces on the four IBM x370 servers A1,B1,C1,D1 are connected to a second high-speed Gigabit Ethernet switch 3 for systems management purposes. These two switches 2,3 are not connected together.") Tremain, paragraph 0184).

Consider claim 17, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first network is a network based backup and recovery network (("To address the volume and importance of storing such data on client/server networks, storage area networks (SANs) have emerged to free up bandwidth on such LANs and to provide storage and related storage services to clients of one or more client systems such as backup and restoration functions. A SAN is a dedicated network separate from LANs and wide area networks (WANs) which interconnects storage devices to one or more servers and to a plurality of clients and/or client systems in a related network. A storage management server or servers may also be utilized to control the storage devices and keep track of the data that the plurality of clients have stored on the plurality of storage devices coupled to a common SAN. The storage management server may also be utilized in data restoration efforts. Data restoration permits clients to copy a version of a backup file or files stored on any one of the plurality of storage devices.") Fruchtman et al., paragraphs 0003 and 0006).

Consider claim 18, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first network is a network based gigabit Ethernet network ((“A second physical apparatus of the type described above located in a geographically separate location can be constructed and interconnected with the first, for example by means of Gigabit Ethernet and IBM ESCON.”) Tremain, paragraph 0186).

Consider claim 19, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first network is a LAN-free dedicated tape drive network ((“The master restore table 200 may include a plurality of columns including: a first column 202 detailing the portions of data to be restored; a second column 204 detailing the location of such portions of data on associated media from various storage devices 112, 114, 116 of the storage pool 134; a third column 206 detailing a LAN-free path for accessing the associated storage media if such path exists, a fourth column 208 detailing a server-free path for accessing the associated storage media if such path exists, and a fifth column 210 detailing the status of whether an associated storage media has been processed for a given portion of data. Advantageously then, the fifth column tracks the portions of data that have been processed by any one client in any one plurality of client systems 103, 115. In this way, clients or restore processes from any client system 103, 115 would be blocked from restoring a portion of that data that had already been processed or restored.

Accordingly, duplicative restoration efforts are automatically avoided.") Fruchtman et al., paragraph 0022).

Consider claim 20, as applied to claim 1. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses a system wherein the first network is a server-free network (Fruchtman et al., paragraph 0022).

Consider claim 21. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses an automated storage management server resident on a first storage area network, comprising a processor that: transfers information from a first storage region resident on the first storage area network to a second storage region resident on the first storage area network (Fruchtman et al., Claim 13, and paragraph 0003), wherein the first storage region is in direct communication through a dedicated data connection (Tremain, paragraph 0048) to one or more application servers; and transfers information from the second storage region to a third storage region resident on a second storage area network (Ulrich et al., paragraphs 0099, 0545, and 0553) via a third network (Tremain, paragraph 0099).

Consider claim 22, as applied to claim 21. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses an automated storage management server wherein the processor transfers information by communicating with a first disk storage array

(Ulrich et al., paragraph 0013) of the first storage region and a first backup library (Tremain, paragraph 0104) of the first storage region (Fruchtman et al., paragraphs 0013-0015).

Consider claim 23, as applied to claim 22. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses an automated storage management server wherein the processor communicates with the first disk storage array via a fiber channel (Ulrich et al., paragraph 0179).

Consider claim 24, as applied to claim 22. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses an automated storage management server wherein the processor communicates with the first backup library via a fiber channel (Ulrich et al., paragraph 0179).

Consider claim 25, as applied to claim 21. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses an automated storage management server wherein the processor transfers information from the second storage region to the third storage region via one or more switches (Ulrich et al., paragraph 0461, and Tremain, paragraph 0160).

Consider claim 26, as applied to claim 21. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses an automated storage management server wherein the processor transfers information from the second storage region to the third storage region via an asynchronous transfer mode network (Ulrich et al., paragraph 0390).

Consider claim 27, as applied to claim 21. Fruchtman et al., as modified by Tremain and Ulrich et al., discloses an automated storage management server wherein the processor transfers information from the first storage region to the second storage region via a gigabit Ethemet network (Ulrich et al., paragraph 0131).

Response to Arguments

8. Applicant's arguments filed 30 December 2008 with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Mark Fearer whose telephone number is (571) 270-1770. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number

for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Mark Fearer
/M.D.F./
April 1, 2009

/George C Neurauter, Jr./

Primary Examiner, Art Unit 2443